

MARINE REVIEW.

VOL. III.

CLEVELAND, OHIO, THURSDAY, FEBRUARY 19, 1891.

No. 8.

Marquette's Big Ore Docks.

There is presented with this issue three views of the Duluth, South Shore & Atlantic Railway Company's big ore docks at Marquette. The views are interesting as showing the manner of construction as well as extent of the docks. We are indebted for them to the Engineering and Mining Journal, of New York. The finished dock which was in operation during a portion of last season is shown in Fig. 1, while Figs. 2 and 3 show how the dock was framed and raised much after the manner followed in constructing the skeleton of a frame building. The dock contains wood, such as sills, posts, planks, etc., to the extent of 4,125,000 feet, broad measure, in addition to 100,285 lineal feet of piles, while the chutes, hoists, tiller ropes, bolts and other iron and steel weigh 680 tons. The contract price of the structure, complete, with equipments, was \$250,000, not including the cost of dredging, which labor was performed under the separate contract, and was done to make the dock accessible to vessels of deep draft. The structure extends from the shore adjacent to the business portion of the city of Marquette into the harbor in a line parallel with the Ridge—a very desirable residence portion of the city—its east side facing Lake Superior and its west the other docks of the railroad company.

The Raleigh's Ore Contract.

Since the transfer of the propeller Raleigh from James Corrigan, of Cleveland, to N. S. Whipple and others, of Detroit, several stories have been circulated regarding an Escanaba ore contract involved in the sale. The most plausible of them is that Mr. Corrigan, who is engaged in the business of shipping ore, agrees to give the boat a trip a month for six months from Escanaba at 90 cents, he taking the chance of losing or gaining whatever difference there may be in the 90 cent rate and the rate that will rule next season. The difference can not be very great in any event. Another rumor says the boat will engage in towing the schooners Sheldon and Camden between Escanaba and Detroit on a 92 cent contract. Allowing that either of these versions of the deal are true, there is nothing upon which to predict ore freights. Such contracts would have little bearing on the general trade.

Gas Buoys for the Lakes.

The application of the Cleveland vessel owners to have the government place a light-ship on Ballard's reef, Detroit river, and thus relieve them of the cost of maintaining the float light at that point, maintained for several years past by private expense, has brought up the question of adapting gas buoys to the lighting service in connecting waters of the lakes. The senate amendment to the sundry civil appropriation bill, through which it is hoped to secure several important light stations and fog signals for the lakes, will contain a provision for fifteen gas buoys, and Congressman Burton, who has sought to have an appropriation for a light-ship at Ballard's reef included in the amendments, has a promise from the light-house board that one of these buoys will be stationed at Ballard's reef and four others at different points. If a gas buoy would serve for Ballard's reef, there seems to be no good reason why a second one could not be stationed at the mouth of the Detroit river, Bar point,

where the vessel owners have maintained a light-ship for two seasons past. The light-house officials in Washington, as well as Major Overman, engineer of the Tenth district, recognized the necessity of maintaining a light of some kind on Ballard's reef, even after the range lights are established at the head of Grosse Isle. The distance between the proposed Grosse Isle ranges and the Duff & Gatfield ranges on the Canadian main land below the Lime-kilns is full six miles and it is impossible in thick weather to keep these ranges and clear Ballard's reef at all times, especially in coming down when the current is against the ship's port quarter causing her to veer to the westward or toward the reef.

Gas burning buoys have for some time been manufactured and used in England. A few have recently been brought into this country by way of experiment, but none have yet been tried on the lakes. Recently parties in the United States have secured the right to manufacture these buoys, and it is expected that they will be extensively used, for their value to navigation cannot be questioned. The buoy is made of iron and filled with compressed gas, and will burn for 120 nights without being re-filled. The price of these buoys heretofore asked was \$2,750 each. The agents of the American manufacturers propose to furnish fifteen at a cost of \$2,000 each.

The Bituminous Coal Situation.

Lake shippers of bituminous coal have about concluded that they will also be compelled to share in the general labor troubles, not only in view of the proposed eight hour movement but on account of other demands made by the United Mine Workers. The miners demand higher wages for all kinds of machine work and have advanced the general mining rates in addition to demanding that coal be weighed before screening. What bearing these demands will have on the lake trade next season can not be considered at this time. The hope of an early settlement for the coming year's work among the operators and miners when they meet a few weeks hence is certainly very slim.

The lake dealers are also interested, of course, in the outcome of the big strike in the coke district. The position which W. J. Rainey occupies in the strike is characteristic of his general attitude in the coke business, and has been the subject of a great deal of comment. Mr. Rainey has certainly pursued a very shrewd policy for several years past in the manner in which he has treated Frick & Co. and the other leaders in the coke combine. It is estimated by some Cleveland men of coal and iron interests that he has made half a million dollars within the past year, and all on account of the advantages taken of the combine. He is certainly a thorn in the eyes of Frick & Co. Although his plant is third in acreage in the coke district, he has persistently refused to affiliate with the pool but has always profited by keeping prices up to the highest mark, and now he takes advantage of the plans of the combination in dealing with the strikers to keep his own plant working. The coke barons have repeatedly tried to buy him out without success. He will not place a price on the property. It is said that a short time ago the furnace men conceived the idea of buying Mr. Rainey's property with a view to using it in their fight against the coke combination. When they called on him his only answer was: "Gentlemen, if I should make a price on the property it would startle you."

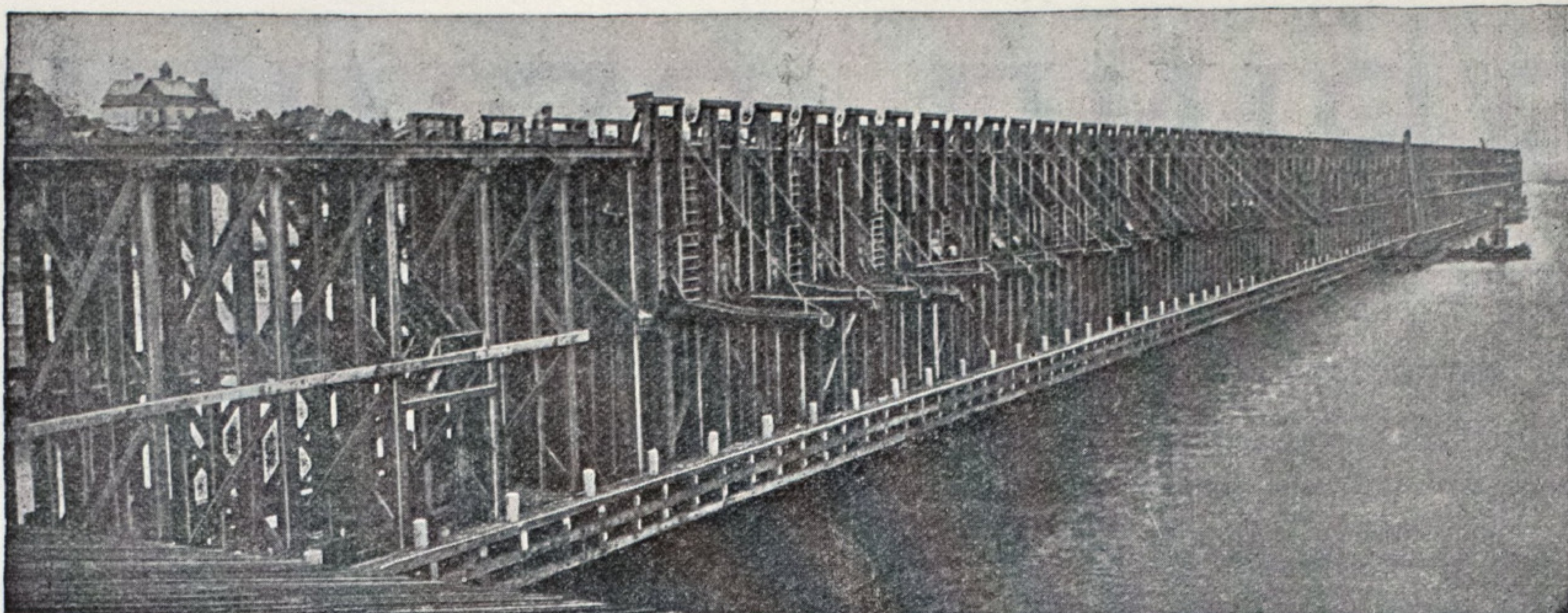


FIG. 1.—DULUTH, SOUTH SHORE & ATLANTIC RAILROAD COMPANY'S ORE DOCK, MARQUETTE, MICH.

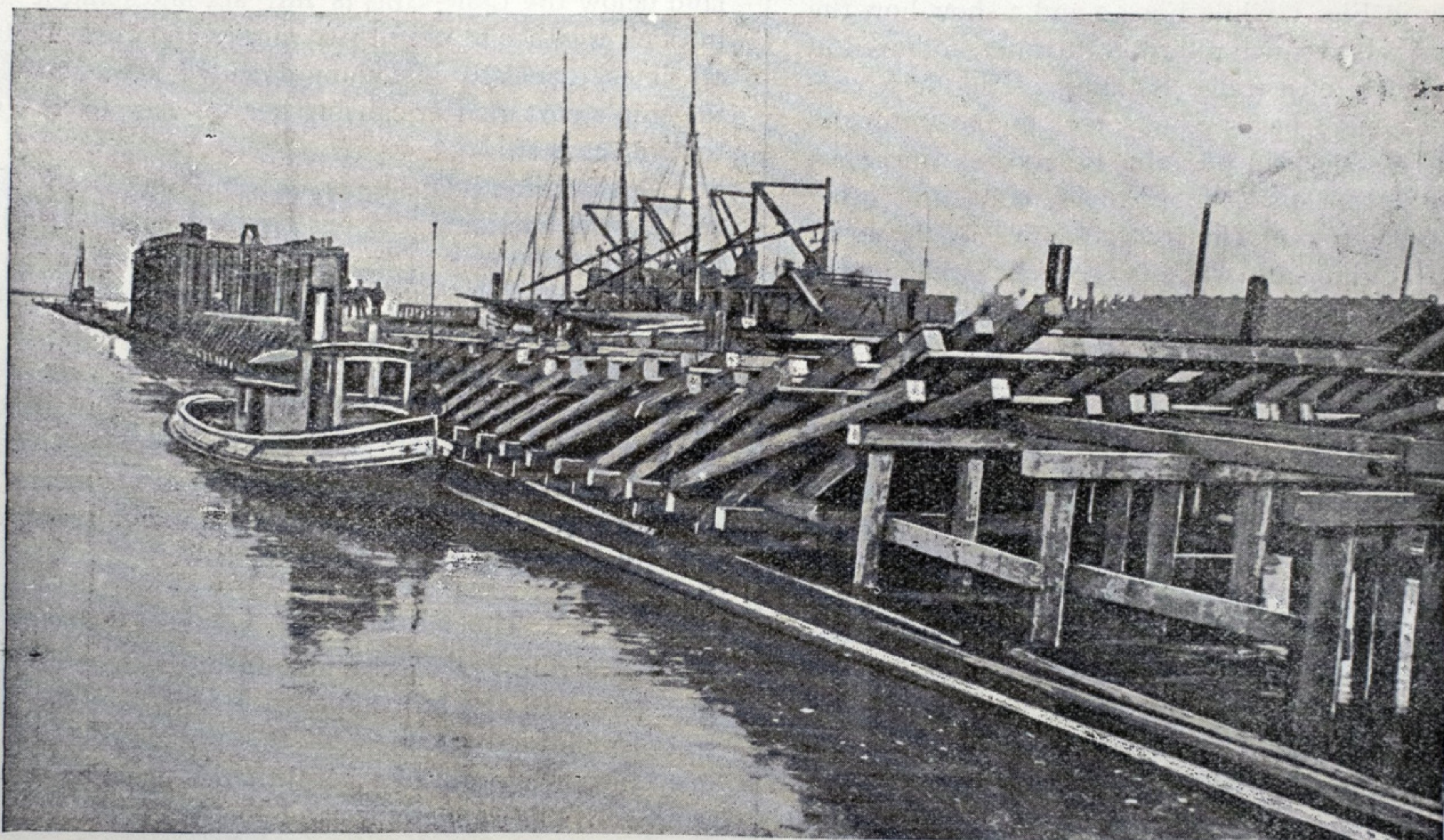


FIG. 2.—DULUTH, SOUTH SHORE & ATLANTIC RAILROAD COMPANY'S ORE DOCK, MARQUETTE, MICH.



FIG. 3.—DULUTH, SOUTH SHORE & ATLANTIC RAILROAD COMPANY'S ORE DOCK, MARQUETTE, MICH.

Insurance Matters—To Send the Weed to the Coast.

Special Correspondence to the MARINE REVIEW.

BUFFALO, N. Y., Feb. 19.—The owners of the steel steamer Emily P. Weed have an idea in which there is money, and lots of it. They are considering the advisability of cutting her in two and sending her to the coast, a la steamer Mackinaw. The latter has been earning big money in the general freight trade, and the Weed is as well adapted therefor. Not being built to be bisected, it would cost more to take the Weed from Lake Erie to the coast than it did to transport the Mackinaw; but that is a small consideration in view of her earning capacity when these vessels like the Weed are wanted on the coast, and too many already are on the lakes. On the coast she can ply the year round, and ought to clear \$75,000 per annum. If she earns \$15,000 on the lakes next season she will be lucky. If the MARINE REVIEW'S correspondent managed the Weed, he would not hesitate to put her into the coast trade.

The Etna Insurance Company has withdrawn from the lake marine business, for the ensuing season at least, and probably altogether. Its lake trade has been managed with great caution, the poorer classes of hull and cargo risks for some years being refused by it altogether. Last season it made a fair profit, but for most of the recent years there was little, if any money on the right side. The company has an immense and profitable fire business; and it has come to the conclusion that the returns in its lake department have not been commensurate with the responsibilities involved. The Etna was one of the first companies to enter the lake field, and must have been in it over thirty-five years. In 1859 the late Capt. E. P. Dorr was appointed general manager for the lakes, and on his death in 1881 he was succeeded by O. T. Flint. The latter's relations with the company have been most cordial. He has labored diligently and intelligently for its success, and withdraws from its employ with the best of feelings on both sides. Mr. Flint had been paid a regular salary, and probably was the only general agent on the lakes who did not work on commission. Under the big commission plan the agent generally gets the profits and the company the losses. The Etna has been a powerful and respected competitor for the lake business, and its withdrawal is sincerely regretted. It is one of the oldest and staunchest insurance companies in the United States. Its line on the better class of lake vessels was \$15,000; and since the recently retired Mercantile, of Cleveland, took a line of \$10,000, there is a loss of \$25,000 in the aggregate available for large hull risks. There are, however, enough companies left to cover the high-priced hulls. Mr. Flint is general agent for the Greenwich, a reliable company which carries \$10,000 lines. He will continue in the business.

It is by no means certain that there will be no newcomers in this insurance field the ensuing season. Mr. Flint undoubtedly would like another company and his weather eye is wide open. Townsend Davis, of Smith, Davis & Co., has been east for some time. He is always looking for something more, and although his firm has half a dozen good companies, he would not object to increasing the list.

It is understood that there is some prospect of a settlement without recourse to law of the loss arising from the City of Detroit-Kasota collision by the English underwriters who covered the former against collision damages. It looks to a man up a mast as if they might save money by so doing.

Capt. Dobbins, on earnest solicitation, gave a fourth talk on the flag signal code before the members of the local lodge, E. M. B. A., last Tuesday evening. Interest in this useful system is growing perceptibly, and it is certain that many lake steamers will adopt it for next season.

It is quite early in the year to talk of canal freights, yet there has been such talk. The forwarding company is dissolved, so it will be every scalper for himself again. This means brisk competition, payment of rebates, unsettled freight rates, and little profit for anybody. Wheat has been offered at 3½ cents for canal shipment at the opening, but forwarders refused to take any at less than 4 cents.

The statistics of lake traffic compiled for the census report by Mr. Keep are for the season of 1889 only. They have no more to do with 1890 than with 1880, notwithstanding the say so of the Washington correspondent. Mr. Keep has been directed to gather up the figures for 1890, but for what good purpose is not apparent.

Reciprocity in Marine Interests.

Special Correspondence to the MARINE REVIEW.

KINGSTON, ONT., Feb. 19.—The present election campaign has a bearing on the marine interests, as many vessel owners claim that unrestricted reciprocity would make Canadian bottoms much more valuable than they are, inasmuch as they could engage in trade that they cannot now secure without being placed at a disadvantage. Hon. Geo. A. Kirkpatrick, who had charge of the reciprocity in wrecking bill, is a candidate for this county. He is not in favor of unrestricted reciprocity, but he is in favor of better trade relations with the United States, hence his connection with the wrecking bill, which, if returned—and there is every

reason to believe that he will be—he will do his utmost to have passed at the next session of parliament.

The question of storage at Kingston has been discussed freely in many American papers, and certainly some very ridiculous assertions with regard to the shortages have been made. It having been generally admitted that a bushel on a thousand was a fair shortage on a season's work, your correspondent interviewed Captain Gaskin, of the Montreal Transportation Company, and Mr. Jas. Stewart, of the Kingston & Montreal Forwarding Company, to ascertain the proportion for last season. They made a calculation and in both cases it was ascertained that the shortage during 1890 was less than a bushel in a thousand. This puts a quietus to the claims that the proportion was so great as to cause serious complaints to be made, and proves that the report was originated in the first place in connection with trade competition. The forwarding facilities were never so good at Kingston as they will be next year.

Heretofore during this month many charters were made, but thus far this year nothing has been done in that line. Before timber charters will be made the quantity now on the market will have to be greatly reduced.

Boat owners and companies are beginning to engage officers for the incoming season. The wages will on the whole, be about the same as they were last year. In a few instances increases will be made.

Captain Estes has just returned from Saugatuck, Mich., where he inspected the new steamer Bon Voyage, now being built to ply between Rochester and Ogdensburg. He says she will be a beauty and the best steamer that ever run out of the harbor at Charlotte. The Norseman, which runs to Rochester from Canadian ports, is now being lengthened 28 feet and made almost new. Last season she ran down from Rochester to the Thousand Islands once a week. She will have opposition this coming season in the Bon Voyage.

The Donnelly Wrecking and Salvage Company met and appointed its officers recently, making Capt. John Donnelly president. The dull season to the contrary, the company paid a dividend, and will add many valuable pieces to its equipment for next season. It will be ready for the passage of the wrecking bill. The courts have decided that the stockholders in the old Dominion Wrecking and Salvage Company are not liable for debt incurred some years ago, owing to the wording of the charter. Stockholders claimed the company was not legally formed. Some \$60,000 of \$100,000 was paid up, therefore those who paid will lose considerable, unless the decision be reversed. Kingston members of the company are James Swift and Captains Jno. and Thos. Donnelly. The matter may be referred to privy council. Of course the company is not carrying on operations.

Grain Stocks at Duluth.

Special Correspondence to the MARINE REVIEW.

DULUTH, Feb. 19.—The stock of grain in Duluth elevators does not accumulate very fast. The past week there were receipts of about 150,000 bushels, but the greater part was absorbed by the mills. The bulk of the wheat still goes to Minneapolis, where the lower grades are handled to better advantage than here. The amount of wheat now in store is 3,700,000 bushels, and this will not be increased more than a million bushels before the opening of navigation. So far there has been no movement of oats or corn to this point. Probably some will come later.

Several contracts were let by the United States engineer in charge of Lake Superior harbors, this week. Those for dredging in Duluth and Superior harbors were given to Capt. Barker, at 14 cents a cubic foot. Williams, Dangherty & Upham bid 14½ cents. The dredging will include the new channel up St. Louis bay and St. Louis river to West Duluth. The contracts for the Ashland and Chequamegon breakwaters were given to Hugh Steele, of this city, at \$25.85 for the former and \$6.25 for the latter. The former is for all stone work.

There are about 400,000 tons of coal on the docks of Duluth and Superior at the present time. This is about twice the amount on hand at this time last year and would indicate a smaller movement this way for the coming season, though the number of new manufacturing institutions building will very largely increase the local demand. The winter has been even milder than that of last year or of two years ago, and the consumption of coal has been greatly below expectations.

The Duluth Tug Company, with a capital of \$50,000, incorporated by E. S. Smith, J. W. Fee, F. W. Smith, C. H. Eldridge and others, will succeed the tug business of Smith, Fee & Co.

Support From Illinois Senators.

Special Correspondence to the MARINE REVIEW.

CHICAGO, Ill., Feb. 19.—The vessel owners of Chicago are doing their part toward securing a senate amendment to the sundry civil appropriation bill that will include aids to navigation on the lakes. Secretary Higgie, of the Vessel Owners' Association, sent urgent letters to Senators Farwell and Cullom and received favorable answers in both cases. The senators promise to interest themselves in the measure.

The outlook in freights for the coming season is still discouraging, but vessel owners here show no great anxiety. Although the movement in ore will be restricted, the usual tonnage in grain, lumber and coal is expected.

Plans for Whale-Back Barges on the Pacific.

Capt. Alex. McDougall and Capt. Thomas Wilson were together in Cleveland, Wednesday, after their visit to San Francisco and the Puget sound district. As might be expected, the talk of the barge company beginning immediately the construction of a ship building plant on the coast, together with the stories of other gigantic projects, is all wind. A ship building plant may be erected in the vicinity of Puget sound three or four years hence by the barge company but all that has been agreed upon as yet is the experiment of sending two of the steamers around Cape Horn to engage in the coal trade between the sound and San Francisco. This will be done as soon as possible, the boats going to the Atlantic by way of the St. Lawrence, and Capt. McDougall visited the New York office of the company to make such a recommendation before coming to Cleveland. "There is not a rolling mill on the coast," said Capt. Wilson, "and it is nonsense to think of starting a shipyard there until the development is much greater than at present. The freight on iron across the country would be \$15 or \$20 a ton and, while \$30,000 or \$40,000 in iron would not figure largely in the construction of a war vessel at San Francisco, for which the government would pay a couple of million, it will readily be seen that this matter of freight does not admit of a thought of building cheap merchant vessels. Then, too, there is little demand as yet for additional tonnage and the method of doing business is very crude. The coal trade between the sound and San Francisco is the main line of business and every charter gives the shipper twenty-five days for loading and unloading. This is only a sample of the way in which the trade is carried on. There are no storage houses or docks and the shipper makes a warehouse of the vessel. A great deal of coal is imported. English vessels come to San Francisco with coal from Australia and other places when there is a chance of getting grain for export and if they do not get the grain they go to Vancouver island for more coal and the distance is no greater than to the sound. With proper handling facilities the sound coal would be made to compete more successfully with this importing business but the development will demand time."

If the shipyard is eventually established it will be located at Ana cortes, a little island town which has two good harbors. The citizens are said to have offered \$200,000 in cash and \$300,000 in lands.

At Portland, Ore., the merits of the whalebacks were explained to the chamber of commerce by Capt. McDougall. He reviewed all that has been claimed for the barges on the lakes and said there was no more material in one of them than there was in the part of a tramp steamer above the water line, and a 3,000 ton steamer of this kind, with her machinery and equipment complete, weighs one-quarter less than the machinery in the ordinary 3,000 ton steamship.

Lake Ship Yards Will Build War Ships.

At the next sitting of the naval committee the navy department will present an answer to Representative Adam's inquiry in the house, as to why F. W. Wheeler & Co., West Bay City ship builders, were not awarded the contract for a practice ship, that company being the lowest bidders. The answer will consist of the statement made at the time, that the treaty or agreement in 1818 with Great Britain, stipulated that the great lakes should not be occupied by more than three war vessels of 100 tons, armed with one 18-pound cannon. The maintenance of the U. S. S. Michigan on Lake Erie is a violation of the treaty, which it is also claimed, was terminated by notice being given by the United States during the late war. Accompanying this answer and information is a request from the secretary that congress should take action on revoking or modifying this treaty, if it was decided to prevent the awarding of contracts to lake ship-builders. The REVIEW asked recently why contracts for engines could not be given lake builders, but it seems that prospects are bright for the building of a few cruisers entire in lake yards within a year or two.

Preparing for the Annual Meeting of Lake Carriers.

A circular from Secretary Keep to the members of the Lake Carriers' Association gives March 4 as the date of the annual meeting to be held in the committee rooms of the merchants' exchange, Buffalo. The following subjects will come up for consideration; 1st, compulsory arbitration by members of the association of disputes relating to vessels; 2nd, a code of instructions to masters of vessels represented in the association for the safer navigation of rivers, harbors and narrow channels; 3rd, uniformity in the method of steering steam vessels on the lakes. Members who cannot attend, are requested to communicate any suggestions they may desire to make with reference to the subjects mentioned, or the general work of the association, to the secretary before March 1.

Lake Michigan Vessel Owners' Association.

The owners of Lake Michigan lumber carriers are endeavoring to perfect an organization through which they hope to maintain remunerative freight rates next season. They have the sympathy of vessel owners engaged in other lines of lake trade but it must be admitted that their undertaking is a difficult one. At the last meeting of the organization, which is called the Lake Michigan Vessel Owners' Association, it was decided that the board of directors should not consider the rate of freight as binding unless 80 per cent. of the boats engaged in Lake Michigan trade sign the by-laws. The organization will confer with the Seaman's Union with a view of agreeing on a scale of wages. Although the matter of freight rates may not be successfully carried out it would seem that such an association could accomplish a great deal of good in many ways for the general carrying trade of Lake Michigan.

The Rafts will be Regulated.

Advices from Washington regarding the report of the commerce committee of the house on Congressman Burton's bill to regulate raft towing in the connecting waters of the lakes are highly satisfactory to the vessel interests. First reports regarding the amended bill said it would admit of rafts in the St. Mary's river 600 by 700 feet. This is untrue, however, as the following text of the bill will show: "That from and after the passage of this act it shall be unlawful to float down or through the St. Mary's river lumber or timber rafts larger in size than 65 by 700 feet, or to float down or through St. Clair and Detroit rivers rafts larger in width than 100 feet, and in all of said rivers forming the connecting waters of the great lakes such rafts shall be handled by such a number of tugs as may be necessary to have such rafts at all times and throughout all their parts under the control and management of said tugs, and the parties in charge of the same. And in the St. Clair and Detroit rivers said rafts and the vessels towing the same shall at all times be kept clear and outside of all dredged or artificial channels in said rivers." The delegation of lake men that appeared before the committee some time ago to urge the passage of this bill, advocated a penal clause, but the committee considered this to be unnecessary, believing that the laws now in force afford sufficient means of redress in cases of damage owing to the carelessness of raftsmen. Although the vessel interests would prefer a bill limiting the length of rafts in the Detroit and St. Clair rivers as well as the Sault river this bill is generally considered a step in the right direction.

The report of Mr. Stockbridge, which accompanies the bill to the house, reviews the arguments of the delegation of lake masters and vessel owners who went to Washington in support of the bill and presents a long list of casualties resulting from the towing of rafts during three months and a half of 1890. It is a very strong document and will no doubt assist in passing the bill.

The keel of the first iron ship ever built in Maine was laid last week, that of cruiser No. 5, at the Bath Iron Works, Bath. The keel of cruiser No. 6 was laid a few days later.

Iron Mining.

VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St.

Stocks.	Par Value.	Bid.	Asked.
Cleveland Iron Mining Company.....	\$ 25 00	\$ 16 00	\$ 18 00
Champion Iron Company.....	25 00	90 00	100 00
Chandler Iron Company.....	25 00	39 00	40 00
Chicago and Minnesota Ore Company.....	100 00		110 00
Iron Cliffs Iron Company.....	50 00		125 00
Jackson Iron Company.....	25 00	90 00	100 00
Lake Superior Iron Company.....	25 00	65 00	67 00
Minnesota Iron Company.....	100 00	70 00	80 00
Pittsburg Lake Angeline Iron Co	25 00	145 00	
Republic Iron Company.....	25 00	27 00	29 00
Michigamme.....	25 00	8 50	10 00

From the tenor of several measures recently introduced in the legislatures of Michigan and Minnesota it would seem that the owners of Lake Superior mines will be called upon to oppose legislation that is seriously adverse to their interests. Closely following the introduction of a bill in the Minnesota legislature, calling for data relative to the value and output of the different mineral properties, with a view of taxing them upon the basis of valuation, is a measure by Senator Dolph in the Michigan assembly providing for the taxing of mines in that state according to their income. Under the present law there is a specific tax on ore and it has worked satisfactory and largely to the advantage of the state. The representatives from the lower peninsula of Michigan show a decided opposition to the mining interests. Senator Dolph would argue that "any farmer would be glad to pay a tax upon his actual revenue rather than upon the assessed valuation of his property." He does not stop to consider the difference between the farm and the mine, or the difference between the mine and the manufacturing establishment, or any other line of industry. Every dollar invested in the mine and its costly equipment is planted there forever, to waste away in the majority of cases. The long list of "holes in the ground" with the stories of millions expended in them, as against the small number of shipping mines in the Lake Superior district should be argument enough to meet this Michigan statesman's theory.

New companies are still being organized for development on the Mesaba range, Minnesota, and flattering reports are still being sent out from properties being worked, notably the Mallman mine where the main shaft is said to be down eighty feet, sixty feet of which is in clean ore. Two companies recently organized at Duluth are the Myrna and Stowell iron companies. The former is capitalized at \$200,000 and the incorporators are A. J. Trimbe, Frank Hibbing, Thomas Pressnell, R. D. Mallet and Frank I. Tedford. This company has 160 acres of property and is said to have a shaft down twenty-three feet, four feet being in hematite ore. The Stowell company's capital is placed at \$1,000,000, to be divided into shares of \$10 each. The officers and incorporators are: W. H. H. Stowell, president; T. H. Pressnell, vice-president; B. E. Baker, secretary; A. C. Jamison, treasurer; and George F. Long, S. F. Boyce, Frank I. Tedford, Jacob Zimmerman and Lannes W. Hizar, directors. Their property consists of 560 acres in section 16-59-14. The highest amount of indebtedness allowed to the company is \$10,000.

It is said that the stock pile of the Lucy mine, Marquette range, will not show over 25,000 tons of ore at the opening of navigation, on account of the restriction policy ordered by the management. Mr. A. Maitland is still in charge of the Lucy, Lilly and Cambria mines, although no longer superintendent of the Iron Cliffs' properties. The manganese lode discovered in one of the shafts of the Lucy late last summer still holds out to its original width and its extent is not yet known. During the month of January the mine shipped 525 tons of manganese, varying from 15 to 23 per cent., to the Illinois Steel Works. No deposit of any magnitude, running so high in manganese, is known to exist elsewhere on this range. The shaft in which it is mined, is now down 348 feet and bottomed in this fine ore. Another shaft is down 375 feet in soft hematite and all the drifts and openings are in ore. A great deal of development work is being done, the ore stocked being mostly taken from the shafts and drifts.

Fully a year ago certain representatives of English capital began negotiations with the owners of the Jackson mine for the sale of their property. A price was fixed and an option given on the mine. The option has been renewed several times since and the promoters of the deal have kept steadily at work but

the recent depression in money matters as well as other difficulties had acted against the sale. Whether anything will come of the negotiations or not is, of course, a question, but the owners of the mine will not in any event be out of pocket on account of it. They have had nothing to do with the negotiations further than to make a price on their property. The Jackson is certainly a wonderful property and, although work on the South Jackson has been suspended and the general operations restricted somewhat in line with the general policy throughout the district this year, the mine last year produced more ore than during any year in its history excepting one. The Jackson has produced 3,069,930 tons of ore, the product for 1890 being 124,682 tons.

Iron Ore, of Ishpeming, announces that the Lake Angeline closed its east end workings at that place last week. This is a portion of the company's possessions opened last spring and was only a prospect. The work may be resumed during the coming summer if there is a sufficient improvement in the market. The Lake Superior company is meeting with more than was expected in its Section Sixteen property, but the mine managers desire to wait until more has been done in the way of development before crediting themselves with a new bonanza.

A foreclosure sale of some of John E. Burton's Gogebic mining properties under a mortgage held by the Central Trust Company, of New York, took place at Geneva, Wis., last week. The properties covered by the mortgage brought \$126,105, a fraction of what they were valued at by the ex-iron king in the Gogebic bubble.

It is generally believed that the Chandler Company, Minnesota range, has a valuable addition to its property in the north forty acres recently leased. Several test pits are already showing up valuable mineral deposits.

The Detroit mine, Marquette range, has been closed and the working force laid off, it is understood, for good. There was every promise of improvement in the mine some time ago but the vein did not hold out.

The Portage Lake Canals.

There has been some delay in the purchase of the Portage lake canals, as provided for in the river and harbor act, approved Sept. 19, 1890. The secretary of war, who was called upon for an explanation, is reported to have said that the delay is caused by a neglect of the companies interested to furnish complete abstract titles to the property which is to be purchased. The Torch Lake Times, in canvassing the matter, hints that the delay on the part of the companies may possibly be premeditated. As long as they hold the canals they can collect tolls.

Canal Navigation by Night.

The following concerning the navigation of the Suez canal at night will interest persons who look forward to the time when the Sault river and canal will be made navigable at night as well as day. There has been hung up in congress for some time a measure providing for lighting this narrow, boulder studded channel by means of electricity. However, experienced masters claim that even these lights will fail to render the passage as safe as might be wished. The plants in operation on the Suez canal are portable and companies have been formed to place them aboard ships for the trip through the canal, for which service a charge is made. This gives the vessel passing that way once a year the use of what would be an expensive addition to her outfit. A plant consists of a search light at the bow, close to the water, capable of throwing light from a quarter to a half mile, and an automatic arc light and reflector above the bridge, for lighting up the channel in the vicinity of the vessel. The search light is mounted on a platform in a cage that is hung over the bow. The apparatus of the search light consists of a spherical Chance mirror, upon which the 12,000 candle power rays are concentrated, projecting the rays in a parallel beam through a dispersion lens, which may be manipulated horizontally or perpendicularly.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, ... } PROPRIETORS.
F. M. BARTON, ... }

Published every Thursday at No. 510 Perry-Payne Building, Cleveland, O.

SUBSCRIPTION—\$2.00 per year in advance. Advertising rates on application.

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 234 days of navigation, 10,557; tonnage, net registered, 8,454,425. Number of boats through Suez canal during 1889, full year, 3,425; tonnage, net registered, 6,783,187.

Annual tonnage entries and clearances of the great seaports of the world, for 1889: New York, 11,051,236 tons; all seaports in the United States, 26,983,315 tons; Liverpool, 14,175,200 tons; London, 19,245,417 tons.

Entered at Cleveland Post Office as Second-class Mail Matter.

THE bill introduced by Representative Dingley to establish a marine board, which was favorably reported by the house committee on marine and fisheries a few days ago, is the measure drafted in the treasury department in accordance with the plans outlined by the heads of the different marine bureaus. This is the measure prepared after suggestions from the late International Marine Conference. The opinion is expressed from Washington that the bill will not pass this session. The change proposed is satisfactory to the marine interests, however, and the bill should be adopted. Although the management of some of the marine bureaus under present rule is not altogether satisfactory, this amalgamation of marine interests would be a step toward the establishment of a marine department with a cabinet officer at its head.

THE house committee on rivers and harbors has finally reported adversely to the occupancy of the north pier at Buffalo by the Deleware & Lackawanna Railway Company. The report adopts the views of the lake vessel owners with regard to the occupancy of government property by private individuals or corporations and is another victory for the vessel interests. In event of government action toward removing the immense coal trestle of the Lackawanna company from the pier, the railway corporation will undoubtedly resort to the courts and, in any event, it will be a long time yet before the matter is definitely settled.

LATE advises from Washington would indicate that Representative Burton's bill for the regulation of raft towing may not become a law at this session. The bill as agreed upon by the commerce committee of the house is favorable to vessel interests, but Representative Mason, of that committee, is quoted as saying that the session is too far advanced to even make it worth while to report the bill to the house. It would certainly be unfortunate to have such an important measure die in the committee, and it is to be hoped that the representatives of vessel interests in Washington will yet secure its passage.

COMMENTING on the act, to compel ships to report to one another after a collision, recently passed by congress, London Industries says, that sailors have ever been regarded with admiration for their pluck and bravery, but that to save a damage case for the owner and suspension by the board of trade, the master of the fortunate vessel is tempted to keep on his way. Continuing the explanation that journal says the need of such a law is as great in England as in any other country. American rules of the road might suggest something to England as well as this act.

WESTERN SEAMAN is the name of a monthly magazine, the initial number of which has just been issued in Cleveland. It is published by the Western Seaman's Friend Society and will be largely devoted to the interests of that organization. The first number is neatly gotten up and contains a great deal of miscellaneous reading matter.

The Senate will Provide Appropriations for Lights.

Through a masterly effort on the part of Secretary McKay and Mr. Harvey D. Goulder, of the Cleveland Vessel Owners' Association, assisted by Col. William Ludlow, United States engineer in charge of the Ninth and Eleventh light-house districts, who recognizes the importance of commerce in waterways over which he exercises supervisions and is not backward about expressing his convictions regarding this as well as other matters pertaining to his relations with the government, there is every reason to believe that appropriations will be secured for some of the aids to navigation rejected by the house committee on appropriations. When it became known that the sundry civil appropriation bill as passed by the house provided for only two lights on the lakes—Braddock's Point and Genesee, Lake Ontario—the Cleveland vessel owners immediately set about presenting the injustice of this action to the senate, and Captain McKay communicated with every commercial body on the lakes as well as leading vessel owners and the heads of such departments in Washington as it was desired to reach. The plan is to have a delegation appear in Washington, in company with the local light-house officials, and urge the adoption of amendments by the senate. The situation, however, is a complicated one and, although the senators representing lake districts are thoroughly interested, cautious action will be necessary on the part of the delegation going to Washington and, in fact, on the part of Representative Burton and others who have worked earnestly in behalf of these aids to navigation on the lakes. To begin with, it can be safely said that the three light-ships for Simmon's reef, White shoal and Gray's reef are assured, as the house committee on appropriations has agreed to apply \$60,000 appropriated for a light-station on Simmon's reef toward the construction of these light ships, but the only other aids as yet authorized by the house are a light on Old Mackinaw point, a fog signal and range lights at Ashtabula and a light at Squaw island. The items for these lights might readily be attached as amendments to the appropriation bill when it comes up in the senate and they would probably be agreed to in conference, although Mr. Cannon, of the appropriation committee refused to consider them when Mr. Burton sought to have them included in the bill when it was before the house. It is with regard to other appropriations in Mr. Burton's special bill for a great many lights and fog signals on the lakes that care must be used. The senate adopted this bill and provided at the last session for the appropriations that go with it but the bill is still on the calendar of the house and if any of its provisions are included as amendments to the sundry civil appropriation bill in the senate it would be rejected by the house, as new legislation can not be inserted in an appropriation bill. The plan, therefore, for the delegation going to Washington as well as other representatives will be to induce the appropriation committee of the house to permit of the passage of at least some of the important items in the Burton bill in time to include them in the measure for appropriations. It is hardly to be expected that the action of the senate committee on commerce in tacking the Burton bill entire onto the appropriation bill will prevail, although every light and fog signal in the bill is badly needed.

In this effort to bring this measure to the attention of the senate, Capt. McKay and Mr. Goulder, of the Cleveland Vessel Owners' Association, presented all of the details to the office of the secretary of the treasury, Senators McMillan, Sherman and Payne, Major McKinley and the heads of the different marine and commercial bodies around the lakes, who in turn communicated with their senators. Mr. B. L. Pennington secured action through the Cleveland board of trade. Among the heads of transportation lines who were requested to appear before the senate committee were: James Ash, E. T. Evans, W. P. Henry, F. J. Firth, H. M. Hanna, W. M. Egan, A. W. Colton, William Livingstone, James Davidson, John Gordon, R. P. Fitzgerald, D. Vance and Ira H. Owen.

Vanderbilts in the Mining Region.

The much talked of negotiations for the sale of the Schlesinger railway together with the Chapin and other mines at Negaunee were closed by Mr. M. A. Hanna in New York on Wednesday. The Chicago and Northwestern railway takes the new ore road and the Vanderbilts, also controlling the Chicago & Northwestern, take the mines. The Messrs. Hanna had a leading interest in the transfer and in fact controlled all negotiations as the fleet of steel vessels involved with their contracts had most to do with the outcome of the deal. Details regarding the figures at which the sale was made have not been made public as yet. The Cleveland interests have been compelled to sacrifice some parts of their prospective profits.

The Inter-Ocean Fleet.

General Manager Ricketson, of the Inter-Ocean Company, has appointed the following officers: M. Conley, chief engineer; Maryland, Capt. James E. Yax, Engineer S. C. Davis; Manchester, Capt. Timothy Kelley, Engineer James Grant; Manhattan, Capt. H. F. Loftin, Engineer William Turnbull; Massachusetts, Capt. P. A. Anderson, Engineer Philip Van Rensselaer; Merimac, Capt. William J. Pringle, Engineer W. R. Patterson; Minnesota, Capt. Daniel Jones, Engineer W. H. Pinkham; Metacomet, Capt. W. L. Shield.

Excelsior Marine Benevolent Association.

The Milwaukee lodge is now in working order and will occupy quarters with the Whale club. The officers of the lodge are: President, James List; first vice-president, F. C. Maxon; second vice-president, Samuel Neff; secretary, R. W. Williams; treasurer, F. C. Starke; committee, Edward Saveland, Samuel Neff, William Jamieson. Following is a list of the members entered upon the roll at the outset: John Cochrane, William Jamieson, F. C. Starke, James Leisk, F. C. Maxon, John Leisk, Edward Saveland, H. M. Boyce, Henry Leisk, John Gorman, Olaf Anderson, Thomas Richardson, S. O. Neff, Henry Consaul, James Fraser, William Lund, Samuel Neff, Charles H. Ellis, William E. Wright, F. Schwerman, W. R. Williams, John McSweeney, J. O. Sullivan, John Wright, John Doke, W. F. McGregor, Daniel Mabee, L. R. Vance, A. F. Pittman, Henry Downer, Peter Anderson, Timothy LeMay, John Beckly, John McCoy, A. H. Hawgood and R. W. Williams. President Clark, of the grand lodge, installed the officers, Monday evening.

Attorney Groot addressed the Cleveland masters, Saturday, on matters pertaining to the proposed change in the municipal government. Rev. Mr. Euxton, who was present by invitation from some friends in the order, also spoke informally of the high opinion which he held for lake-faring men through recent association with them.

In connection with the agitation among Buffalo captains for more general use of the signal code on the lakes it was said that the propeller Niko was the only lake boat having signal letters assigned by the commissioner of navigation. This was a mistake, as the propeller J. H. Outhwaite, Capt. John Nelson, was launched in Cleveland a few years ago with a full set of signal flags flying, and her signal letters are K. D. L. S.

A portrait of Capt. J. B. Hall, vice-president of the grand lodge, is contained in this issue, in accordance with the plan of presenting likenesses of the leading grand officers. Capt. Hall is also president of the Cleveland lodge. He has seen a number of years of service on the lakes and is now master of the steel steamship Corona.

At the last meeting, E. M. B. A., lodge No. 2, Port Huron, Capt. Alva Neil, of the B. W. Arnold, was balloted for and elected a member. On account of the increase of membership lodge, No. 2 have had to have their hall enlarged. The association is, considering the number, as prosperous as any on the lakes. There are several new masters that will send in applications for membership at the next meeting.

The Cleveland lodge was favored with the company of President Clark, of the grand lodge, at its last meeting. Preparations are being made for a ball and banquet.

Captains Thomas Riordan, Alexander Waters, Robert Hayes, and Thomas Dunn, have been elected members of the Buffalo lodge.

The Cleveland Ship Building Company's No. 11.

The launch of the Cleveland Ship Building Company's No. 11 from their yard was delayed on account of the strong current in the river. This steamer is a counterpart of the La Salle and Joliet and was built for the same owners, the Lake Superior Iron Co. She is 266 feet keel, 38 feet beam and 24 feet deep, while her engines are the Cleveland's regular triple expansion, cylinders 17, 29 and 47 inches by 36 inch stroke, but they will have a Hughes independent air pump and condenser, and the feed water, bilge and cold water pumps will be operated independently. In a talk with Mr. Angstrum as to how this class of boats compare with ocean tramps he said that they equalled them in all respects, except in model, which contained more fullness on account of the necessary light draft, but he added that the apparent fullness was no detriment to speed, for displacement and power being equal in lake and ocean steamers, the speed results were the

same. The berth made vacant by this launch will be occupied by Mr. J. H. Wade's yacht. No. 11's name is Mowatam.

This steamer is the third of a fleet of four that will carry ore for the Lake Superior company next season. Last season President Fay arranged a time card for the La Salle and Joliet, and the one launched and the one building at the Cleveland yard will be included next season. The fleet will be officered as follows: No. 11, Capt. Ed. Mooney, Engineer Kennedy; No. 12, Capt. O. W. Green, Engineer Stoddard; La Salle, Capt. Henry Stone, Engineer Tyler; Joliet, Capt. Millen.

In General.

Capt. Green, of the schooner Helena, has returned from a trip to Enrope.

The Goodrich Transportation Company will spend about \$60,000 this winter in repairs upon its steamers.

Capt. Carleton Graves has purchased an eighth of the propeller Cormorant from Mr. R. K. Winslow for \$5,000 and will sail her next season.

The Detroit Boat Works has issued a handsome illustrated catalogue. Prospective yacht owners will find it valuable. Send 10 cents in stamps to that company at Detroit, Mich., for a copy. Parties mentioning the MARINE REVIEW need not make enclosure.

There will be little done in the way of carrying ice on the lakes during the coming season. Profits in this line last season were important to many vessel owners, but the supply of ice secured on the small inland lakes during the past few weeks would seem sufficient for the wants of Cleveland dealers, at least.

Calvin A. Blood and Ada Foster, of Marine City, have commenced suit in the circuit court against Alex. Anderson, Wm. Anderson and Mrs. J. C. Hazen. The plaintiffs claim that they each own a one-fifth interest in the propeller Tempest, No. 2. It is alleged that John Hazen is the sailing master and has so manipulated the affairs of the boat that the profits have disappeared. It is claimed that the boat made over \$5,000 last year, yet the records show that only \$600 was made. The plaintiffs want the boat sold and the proceeds divided among the owners.

Trial of a New Steering Gear.

Special Correspondence to the MARINE REVIEW.

WEST BAY CITY, MICH., Feb. 19.—Daniel Maxon's new steam steering apparatus was given a test on the tug Witch of the West last week, and worked to the satisfaction of all present. The apparatus consists of a cylinder, partitioned off on the inside so as to make practically a double cylinder, and has a piston running through each end. The device is operated by means of a lever, instead of a wheel, and the great advantage claimed for it is that it will move the rudder much quicker than by the ordinary method. The pistons are connected with chains from the rudder and when steam is let into it from either side it operates the rudder. Another advantage claimed for it is that, by means of lines the lever can be operated from any portion of the vessel. The cost of the whole apparatus is from \$500 to \$800 and it can be put in a vessel, complete, in a half a day.

A delegation of dock laborers waited upon Captain Ben. Boutelle a few days ago to discuss the matter of loading boats, as it will be done if the new vessel owner's association succeeds in carrying out the plans laid down at its initial meeting. They also wanted to find out why he had said that a man with 25 cents invested in a leather apron made more out of the vessel business than the owner of \$15,000 worth of vessel property. The captain explained that he lost money on one trip from Bay City to Cleveland, and that the money went into the laborer's pockets, as it cost him \$140 to load here, and \$440 to unload at Cleveland. "I like to see the men get what is right," he said, "but, at the same time I want to have my argers earn a reasonable interest on the money invested." The tugs of the Smith-Boutelle line are all receiving a thorough overhauling. The Justice Field has been given a double deck and the Niagara has a new fore and aft compound engine. The other boats of the line have been given minor repairs.

At Port Huron over sixty men are at work on the steambarge building at the yard of the Jenks Ship Building Co., and the boat is all in frame and ready for planking.

Barge C. L. Young and tug Westcott came out of Dunford and Alverton's dock and the Agnes went in for extensive repairs. Schooners Fanny Campbell and Dauntless will be given rebuilds by Eveland & Reilly and Capt Buckley, respectively. Capt. Symes and Engineer Bristin will leave for Owen Sound soon to fit out the steamer Seguin.

Around the Lakes.

The Port Huron ferries carried an average of 700 cars daily across the river during January.

The steamer Swallow has been sold by Capt. Porter to Capt. Quinlan, of Detroit, for \$15,000.

The Detroit & Cleveland Steam Navigation Company has increased its capital stock to \$800,000.

The schooner Jessie Winters has been sold by Halvor Williamson to Barton Moes, of Racine, for \$1,100.

Escanaba will extend her boundary lines taking in North Escanaba where the docks for the Schlesinger road are being constructed.

The Armour-Marion collision case will not come up for trial during the present month. Judge Jenkins, of Wisconsin, docketed it for the May term.

The Ogdensburg Transportation Company has purchased the schooners Jennie Matthews and Mary Lyon, and will convert them into barges for the Lake Ontario coal trade.

The propeller Ogemaw and consorts, barges Tilden and Maxwell, have been chartered to carry lumber from Ashland to Buffalo for the same parties as last season. The charter is for going rates.

Capt. Smith Moore and R. R. French have secured contracts to furnish 500 cords of stone each for the extension of the government breakwater at Marquette, C. Berner, the contractor, paying \$4.50 per cord for the stone delivered.

Capt. John Miller, a Lake Michigan navigator, who died a few days ago at Somers, Wis., at different times owned and commanded the schooner Rosa Belle, scows I. M. Hill, Green Bay and other crafts. He had not sailed for five years past, and was 64 years old.

Representative Chipman, of Detroit, has introduced a resolution in accordance with the recommendation of the secretary of the treasury to suspend for one year on the lakes the operation of the law requiring projectile life line guns for the life-saving service.

Henry Pates, for many years clerk in service of the Goodrich boats, and for late years filling that position on the Muskegon, has been appointed to the agency of the Goodrich Transportation Company, at Manitowoc, made vacant by the death of J. W. Toombs.

E. B. Whitcomb, general passenger and ticket agent of the Detroit and Cleveland Steam Navigation Company, has resigned his position, which will be filled by Augustus A. Schantz. The steamer City of Detroit will begin running about March 1, to be followed about one week later by the City of Cleveland.

The report generally circulated that there is 2,000,000 tons of ore on Ashtabula docks is untrue and misleading. There is less than 1,000,000 tons on dock at that point. Still, the ore is moving very slowly, the combined shipments of the two railways leading out of Ashtabula last week being less than 150 cars daily.

One important change in the rules of the steamboat inspection service adopted at the recent meeting in Washington provides that all ships hereafter built shall be provided with stop valves on the steam pipes. This, with other rules adopted by the supervising inspectors, will be enforced after approval by the secretary of the treasury.

A telegram from the Sault a few days ago said: "Recent investigation into the condition of the ice on Mud lake shows six or eight inches of ice with water and about two feet of snow over it. Teams are unable to cross. The ice is not as thick as usual anywhere in the river. There is enough snow on the ice now to prevent it making any more. The water is four inches lower than last spring.

Otto Kitzinger and John Smith of Manistee have purchased the steamer Mark B. Covell from Whitehall parties for \$22,000, and she will run between Milwaukee and Manistee. The Covell is wintering at Whitehall, where her engine is being steampowered. Her measurement is 192 net tons, and she carries about 300,000 feet of lumber besides having cabin accommodations for 45 passengers. She was built at Manitowoc in 1888, by Burger & Burger, rates A1*, and last season had a Lloyd's valuation of \$25,000.

The Milwaukee Evening Wisconsin claims that the new twin screw steamer Virginia, being built by the Globe Iron Works Company for the Goodrich Transportation Company, will be the finest passenger steamer flying the American flag, not excepting the Fall river line boats. In her general appointments the Virginia will resemble the modern ocean passenger steamers, while her cabin is to be, as nearly as it will be possible to design it, a duplicate of the steamer Indiana's, of which the well-known Detroit marine architect, Frank E. Kirby, than whom there is to-day no better in the United States, wrote last season after looking the Indiana over carefully: "The Indiana's is the handsomest steamboat cabin in the world. I except nothing, in this or any other country."

"Capt. Tim Smith, of the tug J. H. Martin, of Charlevoix, is a unique character, in his way," says the Milwaukee Evening Wisconsin, "and it is said of him that nothing was ever known to ruffle the serenity of his temper. A number of years ago he was master of the small schooner Sea Gem. One night, while making the run from Milwaukee to Charlevoix, the schooner was caught in a terrible squall. The mate called to Tim several times to come on deck, but he remained in the cabin patiently sawing away on an old cracked fiddle, in a vain attempt to wheeze out a new tune. Finally the schooner's canvas began to blow away, and the mate stuck his head down the companion way and shouted: 'For God's sake, captain, come on deck! The schooner is going straight to hell!' 'Is she goin' by way of Charlevoix?' drawled the captain. 'I suppose so,' replied the mate. 'All right, then, I'll get off there,' and he began sawing away again.

Cleveland Matters.

Mr. M. A. Bradley is in the south and will probably be out of the city for a couple of weeks.

The steamships Corona and Corsica, of the Mutual line, will appear next season with but two pole spars. The Cambria's spars are very low and will remain as they are for the present.

Major Overman, United States engineer, has advertised for proposals for the removal of 244 feet of the east pier at Ashtabula and for making general repairs to the piers at that point. This is in accordance with the plans of the Lake Shore Railway Company for the breakwater and dock improvements now under way at that port, although the work will be done by the government. The project has the indorsement of lake vessel interests in general and will give Ashtabula a big increase in business.

Amherstburg Wants a Dry Dock

The idea of the building of a dry dock having any political significance may seem strange to dry dock owners of the United States, but there is a ripple in Canadian Parliament which was stirred up by Amherstburg citizens calling attention to an old petition, praying the Dominion government for \$50,000 to build a dry dock. After calling attention to the grant made Kingston, a commendatory clause was inserted in the second petition, stating that "the enlightened policy of the present government" etc. When it reached Mr. Balfour he objected to adding his signature and gave the following reasons: Although desiring a dry dock at Amherstburg, he did not feel called upon to record his approval of a policy, which he believed afforded the very reason for there not being a dock at that place long ago, for if there was freedom of commercial intercourse with the United States and liberty to repair American craft, private enterprise would provide a dock without government aid. If Amherstburg reflects this idea the coming election there will be interesting.

Notice to Mariners.

The light-house board gives notice that on the opening of navigation two fixed red lights will be exhibited from tubular lanterns suspended respectively 21 feet and 26½ feet above lake level, on the channel side of the east pier at the entrance to Cedar river, Green bay, Michigan. The front range light will be attached to the south corner of Cedar river light-house and the rear range light will be suspended from a post near the inner end of the pier, 500 feet from the front light. The lights will be visible in clear weather, two or three statute miles, and form a range for entering and leaving Cedar river.

Marine Engineers' Beneficial Association.

THE ANNUAL CONVENTION.

Some portions of the discussion at the annual meeting in Washington were particularly interesting to lake interests. In his annual report President Galwey said: "We have an organization in the lake section known as the Vessels Owners' Association, the name of which distinctly shows its character and aims. The principal business transacted at their winter meetings is the formation of a schedule of wages to be paid on the various lines during the coming season, from which (upon mutual agreement of members) there is supposed to be no deviation. They pursued this course last winter, but after the consolidation of the organizations spoken of in a preceding paragraph, it became known there was discord in the Vessel Owner's Association, as a rumor spread that some of the members had departed from the rule, in so far as they had promised to hire engineers at an advance over the standard set by the vessel owners. The rumor proved correct, for some of the timid ones fearing (as they explained) that the engineers meant mischief, they were going to secure their help before anything serious occurred, so that the first advance toward the improvement of our organization was productive of good results, there being a very perceptible increase in wages without demand being made. Steam vessels of 3,500 tons are run on the lakes with but two licensed engineers, and the same inspection laws apply to them that governs the coastwise ocean steamers. How long will it be before the managers and owners on the coast will conclude that their own vessels can be run with the same complement? There is no law to interfere with such a change if they see fit to make it. The last report of Supervising Inspector General James A. Dumont shows the steam tonnage of the lakes to be greater than the Atlantic and Gulf coasts. The report of the Commissioner of Navigation shows that the number of vessels of 1,000 to 2,500 tons owned on the lakes exceeds the total of vessels of that class in all other parts of the country. Also, that more steam vessels were built on the lakes than the combined product of the rest of the country, so that the question of more help in the engine room on lake steamers is of vital importance, and I hope you will give the matter prompt attention."

When, at the open session, Gen. James A. Dumont and the supervising inspectors, together with Congressman Farquhar were introduced it was understood that the delegates from all sections should present whatever grievances they entertained. Delegate Thomas F. Dowd, of Chicago, stated that one of the greatest disabilities experienced on the lakes was the need of an adequate force in the engine room. "Ten years ago," he said, "the steam vessels of 350 to 500 tons carried two engineers and two firemen. Today there are vessels of three and four times that tonnage which have no larger crews. Steamers of 1,500 tons capacity go round the lakes with only four men to man the engines." Mr. Dowd further said that they had fully represented this matter to the supervising inspector, but had been met with the assertion that these last were powerless to act. "This statement was not satisfactory to the engineers," he added, "who saw that the deck department of lake vessels had an ample force, and that no restrictions were laid upon it; it was only in the engineers' department that vessels were short handed."

Delegate Reid, of Detroit, also said there was need of more help, and stated that in his opinion there should be a law that the hours of labor in an engine-room should not exceed twelve out of twenty-four.

Congressman J. M. Farquhar had paid close attention to the testimony of the several delegates, and seemed much impressed. Turning to General James A. Dumont, the supervising inspector general, he asked if there was no law as to the number of men to be employed in the engine rooms of steamers. General

Dumont replied to this that there was not. In a certain specified case, where an appeal was made as to the legality of certain acts, Judge Hughes, Norfolk, decided that the inspectors had no power to fix the number of men. Blank spaces were left in the licenses, which the owners filled in themselves. Hon. J. M. Farquhar replied to this in effect, that there must be some law, and that no decision of the kind named was valid; inasmuch as the law of congress in its written word, was so clear that it needed no pettifoggery or decisions to carry it out. He further protested against the assumption of judicial functions by supervising inspectors, who, he said, were appointed to execute the law as it was written, and not to expound it. He also expressed himself strongly upon the matter of short-handed crews in engine rooms, and stated that there was no excuse for it, for the coast trade and lake trade was the most profitable to ship owners in the country. They earned enough to pay for all the help required. He pledged himself and associates in congress to use their best efforts to abolish the evils complained of. "Spare no effort," he said, "to build up your association, for it is in union and the banding together of men that strength lies. Present your claims in a moderate, conservative manner, and they must be heeded. Build on the man first, and enlarge your borders so as to take in all worthy men, and you will succeed." He gave this advice, he said, from the fact that he had for thirty-eight years carried a trade union card in his pocket, so he practiced what he preached. He cautioned the delegates against menaces of any sort or intimidation, and added significantly, "A strike is the last resort."

The Engineer, of New York, shows commendable enterprise in publishing a full report of the Washington meeting.

Affairs in Admiralty.

SOME IMPORTANT POINTS IN ASSESSING DAMAGES.

Judge Brown's decision on exceptions to the report of Commissioner Davison in assessing damages in the Sheffield-North Star collision case has just been printed in the Federal Reporter. The decision in the collision case was for a division of damages and in the matter of assessment Judge Brown sums up the points as follows: First—where a steamer, which was under charter to carry 25,000 tons of iron ore, was sunk in collision after she had entered on the performance of such charter, and her owner was paid \$2,000 for a re-assignment and release of his interest in the same, upon the theory that he had the right to substitute another vessel it is held that as against the vessel in fault, he could not recover the profits he would probably have realized by the full performance of the charter. Second—The damages recoverable by the owner of a vessel totally lost in a collision are limited to the value of the vessel and interest and the net profits of the particular voyage and he is not entitled to the probable profits. Third—While interest upon the value of the vessel is a matter of discretion, it will be allowed where the faults of the two vessels are not greatly disproportional and there is no reason to believe that the witnesses have not given a true account of the circumstances attending the collision. Fourth—Where a witness swore that the expenses of his steamer while undergoing repairs were a certain sum, and the opposing counsel did not cross-examine as to the claims of such expenses, and there was nothing to throw suspicion on the charge, it is held that there is no reason for disallowing any portion of such account.

PROPOSALS FOR REMOVING AND REBUILDING PIER, AND REPAIRS. United States Engineer Office, Cleveland, Ohio, February 16, 1891. Sealed proposals, in duplicate, will be received at this office until 12 o'clock M., Thursday, the 12th day of March, 1891, and then opened, for removing and rebuilding 244 linear feet of the outer end of the east pier and making general repairs to piers at Ashtabula Harbor, Ohio. Preference will be given to materials and plant of domestic production or manufacture, conditions of quality and price (import duties included) being equal. The attention of bidders is invited to Acts of Congress approved February 26, 1885, and February 23, 1887, vol. 23, page 332, and vol. 24, page 414, Statutes at Large. All information can be obtained at this office. The United States reserves the right to reject any or all proposals. L. COOPER OVERMAN, Major of Engineers.

VESSEL AND MACHINERY EXCHANGE.

Space under this heading may be used gratis by our advertisers or subscribers to call attention to vessels or any craft, machinery, new or second hand, that they may have for sale. Those wanting machinery of any kind, or wishing to purchase vessels, are invited to take advantage of the same offer. Each item will be limited to three lines. Letters concerning same must mention number attached to item and be addressed **MARINE REVIEW, 510 Perry-Payne Building, Cleveland, O.**

35—FOR SALE—24 x 26 cylinder with heads, piston, valves, link, and eccentric rods. Good condition, second-hand, from barge A. D. Haywood.

36—FOR SALE—First class yacht, cabin sloop 32 foot, winner of fourteen prizes, reasonably cheap.

37—WANTED—Steambarge to carry 800 to 1000 tons, must be cheap and in good condition.

38—WANTED—Good tug, from 55 to 70 feet long.

39—FOR SALE—Two tugs; one is 63 feet long, and has 14 x 19 engines, and the other is 40 feet long, and was built two years ago.

40—FOR SALE—Steamer George Spencer, with old ore contract for coming season. Good condition; good carrier; good tower.

41—FOR SALE—Two fire box marine boilers, 6½ ft. by 13½ ft., allowed 90 pounds steam, deep furnace, suitable for wood or coal, in good order.

42—WANTED—Dredge in good condition. Give size of dipper, and when and by whom built.

43—FOR SALE—Newly finished 76 foot tug, engine 18x20, fine model.

44—FOR SALE—The Steamer A. L. Hopkins, carries 1,100 tons on 13½ draught water; thorough fit-out for all kinds freight, and complete in every way.

45—FOR SALE—Barge Senator Blood, in good condition.

46—FOR SALE—Steambarge, 102 ft. keel, 24 ft. beam, 7½ ft. hold, steeple compound engine, 12 in., 21 in. by 16 in., 125 pounds steam.

47—FOR SALE—New Barge building, 127 ft. keel, 30 ft. beam, 9½ hold, diagonally strapped, steeple compound engine, 14 in., 28 in. by 24 in., 125 pounds steam.

48—A few shares of stock in a first class passenger transportation company, for sale at \$100 each.

49—FOR SALE—Ferry and towing line with contracts worth \$2,000.

50—FOR SALE—Tug, 52 ft. over all, 11 ft. beam, engine 10 x 12, boiler allowed 100 pounds, built in 1887.

FOR SALE: The Steamer A. L. Hopkins.

Carries 1,100 tons on 13½ draught water. Thorough fit-out for all kinds freight and complete in every way.

For full particulars, address **A. W. COLTON,**
Gen'l Manager, **TOLEDO, O.**

FOR SALE!**Barge Senator Blood.**

Capacity 340 M., coal 500 tons. Fit-out all in first class shape.

For further particulars, address

or **CAPT. H. MAY,** **KENDALL MARINE REPORTING CO.**
Port Huron, Mich. Port Huron, Mich.

For Sale: Tugs, Marine Boiler, and Steam Heaters.

We have several good tugs; also, a second hand marine boiler 14 feet long and 7 feet 6 inches diameter; allowed 80 lbs. steam; in good repair. Also, several second hand tug boat heaters for sale at reasonable prices. Apply to

DUNHAM TOWING AND WRECKING CO.,

mar 31 **210 S. Water St., CHICAGO, ILL.**

FOR SALE!

SIX STEAMBARGES, 400 to 1200 tons capacity.

SIX SCHOONERS, 800 to 1400 tons capacity.

TWELVE SCHOONERS, canal size.

FOUR LUMBER BARGES, 350 to 400 M feet capacity.

TWO RIVER TUGS. TWO HARBOR TUGS.

Reasonable prices and terms. Address **M. L. MARSH & CO., Sandusky, O.**

NEWLY FINISHED, FINE MODEL, FAST**TUG FOR SALE.**

Dimensions, 76 feet long, 15½ feet beam, 7 feet deep, with an engine 18 x 20; steam supplied by steel boiler 6 ft. 8 by 10 ft. 8.

D. BELL ENGINE WORKS,

BUFFALO, N. Y.

FOR SALE! SCOW JAY BIRD,

Rebuilt in 1890, good fitout, 50 tons burden, good carrier and sailor. Terms cash, or long time on good security. Address **ALEX. RUELLE,**

381 Atwater St. E., DETROIT, MICH.

CON. STARKE.

JOS. WOLTER.

AUG. RIEBOLDT.

RIEBOLDT, WOLTER & CO.,

SHIPBUILDERS.



CHEBOYGAN, WIS.

FLOATING DRY DOCK WILL LIFT VESSELS OF 400 TONS.

MAGNESIA SECTIONAL PIPE AND BOILER COVERING,

Recommended by the United States Government. Indorsed by the Board of Underwriters. Preferred and used by leading Electric Companies everywhere.

This is the best covering in the market and is specially adapted for marine work. I CAN REFER TO OVER FIFTY STEAMERS WHOSE BOILERS I HAVE COVERED WITH IT. WRITE FOR ESTIMATE ON ANY WORK YOU MAY THINK OF HAVING DONE.

S. P. CONKLING, 1 Larned St., West, Detroit, Mich.

MILWAUKEE BOILER COMPANY,

[Successor to R. Davis Marine Boiler Works.]

Manufacturers of Marine and Stationary Boilers, Smoke Stacks, Tanks, Etc.

MARINE REPAIRING | Open Day | OFFICE AND SHOPS,
SPECIALLY ATTENDED TO. | & Night. | OREGON BET. BARCLAY & So. WATER STS.

T. L. MCGREOR, Supt.

MILWAUKEE, WIS.

Telephone 742.



F. A. FORCIER.

M. L. WEIL.

The Champion of all Fire Extinguishers!

Just the Thing that is Wanted on Every Vessel!

CLEVELAND, O., Sept. 19, 1890.

Black Cloud Chemical Fire Extinguisher Co.:

GENTS: It affords me great pleasure to testify of the great work your extinguisher does. I have four of them on board and for their simplicity of handling, as well as quickness of extinguishing a fire, they have no equal. Yours truly, CAPT. H. H. HICKMOTT,
Schooner E. B. Palmer.

BLACK CLOUD CHEMICAL FIRE EXTINGUISHER CO.,

26-30 E. Main Street.

CLEVELAND, OHIO.

Office, 31 Atwater Building.

TRAVELERS' REGISTER.

Standard time, given here, is 33 minutes slower than City time.

THE NEW YORK, CHICAGO & ST. LOUIS R. R.

	Arrive East.	Depart East.
Buffalo Passenger	10 40 AM	10 45 AM
Chicago Passenger	9 20 PM	
WESTWARD.	Arrive.	Depart.
Chicago Passenger		6 30 AM
Fostoria Passenger.....	5 06 PM	5 11 PM
All trains daily except Sunday.		

ERIE RAILWAY.

	Arrive.	Depart.
Youngstown Accommodation.....	*7 15 AM	*6 05 AM
New York and Pittsburgh Express	*5 15 AM	*8 10 AM
Pittsburgh Accommodation.....	*12 45 PM	*11 25 AM
New York & Pittsburgh Limited.....	*9 55 AM	*2 55 PM
Mantua Accommodation	*7 20 PM	*4 20 PM
Youngstown Express.....	*9 10 PM	*6 00 PM
New York & Pittsburgh Express... ..	*6 50 PM	*11 00 PM
* Daily. † Daily except Sunday.		

This is the only route by which passengers can reach Corry, Elmira, Binghamton and New York City without change.

The short and direct route to Pittsburgh, Washington and Baltimore. Only 4½ hours to Pittsburgh; four trains daily.

For tickets, sleeping car space and further information address City Passenger Agent, 141 Superior St., (Weddell House block,) or Central Passenger Station, South Water Street.

A. M. TUCKER, Gen'l Supt., G. E. FOUTS, C. P. and T. A.,
Cleveland, O. Cleveland, O.

W. C. RINEARSON, Gen. Pass. Agt., New York.

Duluth, South Shore & Atlantic Railway,

OVER 100 MILES SHORTER than any other line between **BOSTON, MONTREAL,**
And Principal New England and Canadian Points and
the great Northwest.

THE ONLY LINE TO ST. PAUL AND MINNEAPOLIS, VIA DULUTH.
The New Short Line from principal points in Michigan to DULUTH. PACIFIC COAST
and intermediate sections. RATES ALWAYS THE LOWEST.

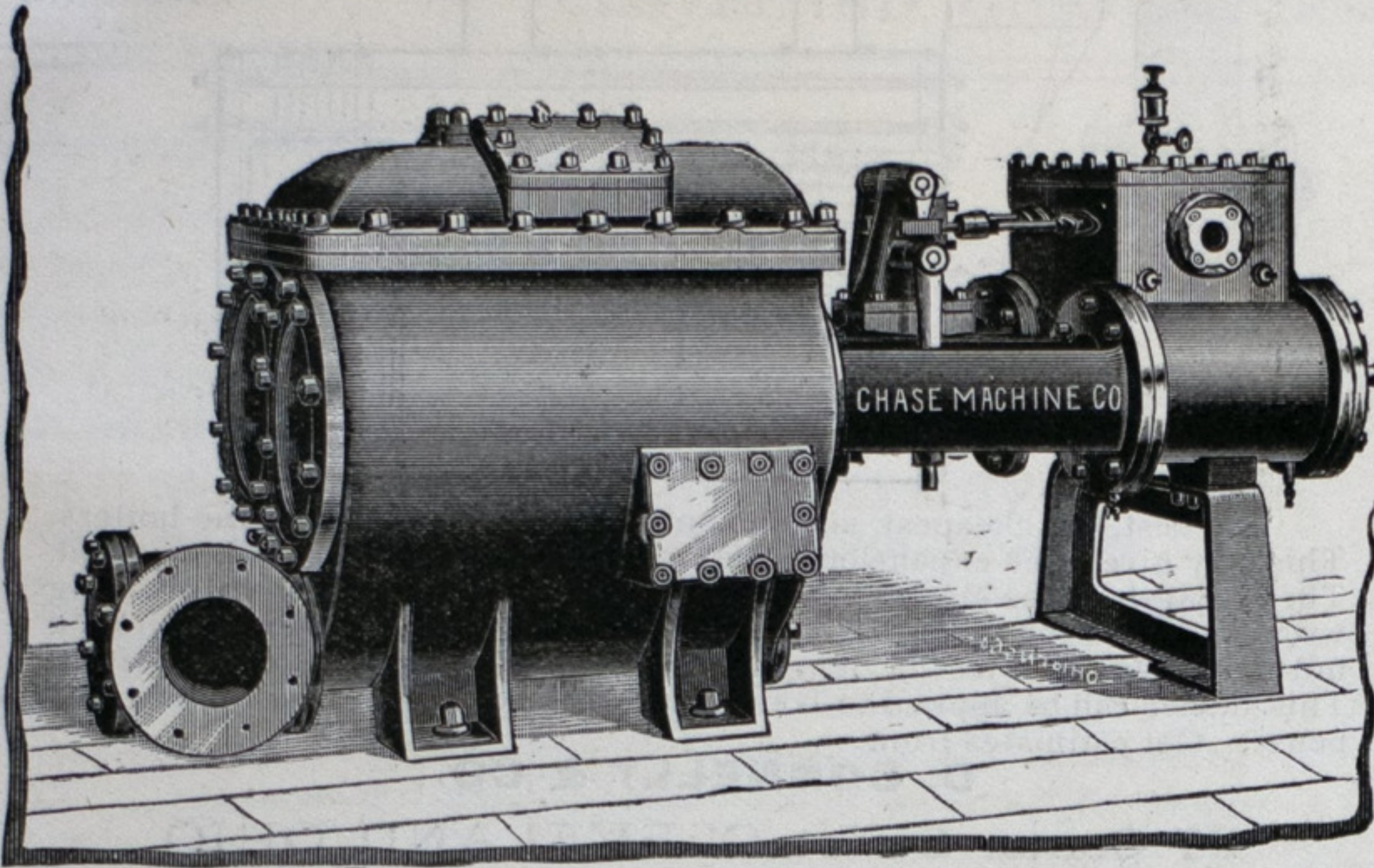
New and elegant Wagner Vestibule Buffet Sleeping Cars on through trains. For
time tables, tickets and general information call on nearest ticket agent or write to
C. P. FLATLEY, Genl. Western Agt., V. DEARING, District Pass. Agt.,
291 Jackson Street, St. PAUL, MINN. 202 Main Street, JACKSON, MICH.

T. H. LARKE, Commercial Agt., 327 Superior St., DULUTH.
W. F. FITCH, Genl. Manager, C. B. HIBBARD, Genl. Pass. & Tkt. Agent,
MARQUETTE, MICH.

KING IRON BRIDGE & MFG. CO.,

CLEVELAND, O.,

Hoisting and Conveying Machinery for Handling Ore, Coal, &c.



THE CHASE MACHINE CO.,

111 Elm St., CLEVELAND, O.,

Machinists and Engineers,

MANUFACTURERS OF

Land and Marine Engines and Steam Pumps,

Sole Owners and Manufacturers of the

CHASE FOG WHISTLE MACHINE.

Special Attention given to Marine Repair Work.

ENGINEERS' SUPPLIES. ASBESTOS PIPE and BOILER COVERING.

Agents for the J. L. Rubber Valves, and Leonard & Ellis' Valvoline.

Telephone 994.

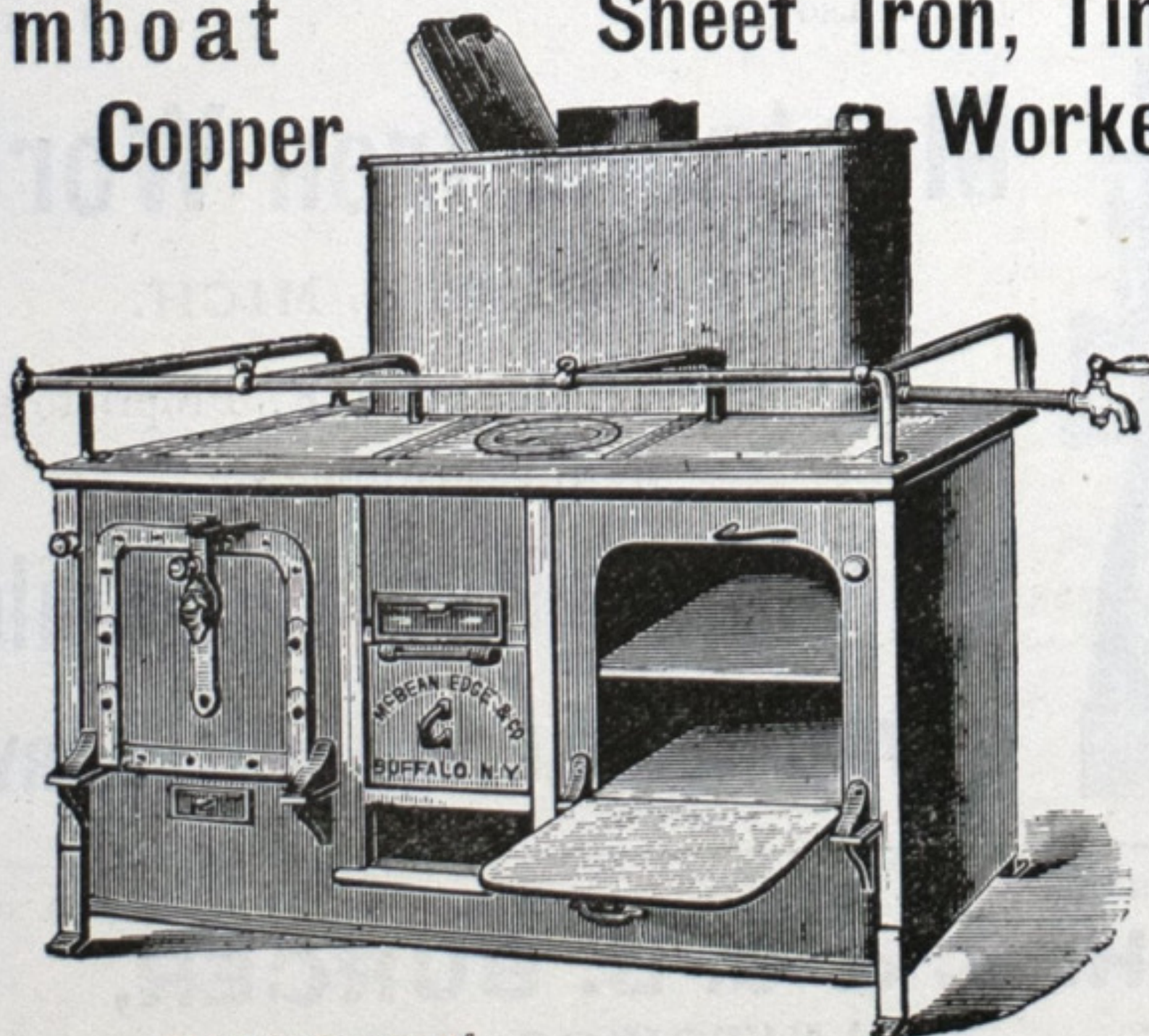
DIRECTORY OF LAKE DRY DOCKS,

Giving Dimensions and Location of all Important Docks, for Information of Owners and Masters.

DOCK.	LOCATION.	Length on Keel Blocks.	Width of Gate.	Depth of Water on Sill and Keel Blocks.	SPECIAL ADVANTAGES.	FOR NIGHT SERVICE.
Bay City Dry Dock & Ship Y'd Co.	Bay City, East Side River,....	310	42½-43½	13-14	Nearest Dock to Mackinaw and Sault Ste. Marie.	Call Foreman Edward Trahan, cor. McEwan and Water Sts.
Cleveland Dry Dock Co.	Cleveland, So. Side River Bed,	312	40 ft. 8 in.	11½-12	Nearest Dock to Harbor Entrance.	Watchman at Dock, Manager, 75 Duane St. Foreman, 126 Fulton
Clark Dry Dock Co.	Detroit, Lower Docks,.....	{ 360 220	{ 68 42	10½ { 9 upper 11½ { 10 end.		Watchman at Dock will call Superintendent.
Detroit Dry Dock Co.	Detroit, Upper Docks,.....	{ 239 300	{ 42 56	{ 8 12		Watchman. Will call Sup't.
Ship Owners' Dry Dock Co.	Cleveland, Head Old River Bed	340	50	18	Depth of water enables loaded vessels to dock here.	Call Watchman.
Union Dry Dock Co.	Buffalo,..... { Upper, Lower,	{ 343 343	{ 48 44	{ 10½ 15½	Three steam derricks connected with each dock.	Call watchman.
Wolverine Dry Dock Co.	Pt. Huron, near Water Works.	200	40	14	Dock Waterlogged Vessels.	Watchman at Dock, nights and Sundays to call foreman.
R. Mills & Co.	Buffalo, N. Y.	{ 280 320	{ 40 46	{ 12 13½	Boom Derricks.	Call Watchman.

McBEAN, EDGE & CO.,

Steamboat Sheet Iron, Tin and Copper Workers,



Manufacturers of

STEEL RANGES for Steamboats and Hotels.

SIGNAL LAMPS, HEAD LIGHTS, ENGINEERS' SUPPLIES,

Anchor and Binnacle Lamps; Square, Triangle and Canalboat Head-Lights; Torches, Coal Oil Lamps, Lanterns, Chimneys, Wicks, &c.

Telephone 803.

33 Main St., BUFFALO, N.Y.

MILLER CHEMICAL ENGINES.

"No Boat Properly Fitted Out Without Them."

Use only Machines that are RELIABLE; that have PROVED themselves IN ACTUAL SERVICE. 100 Boats already use them.



Cleveland, O., Jan. 6, 1891.
MILLER CHEMICAL ENGINE CO., Room 4, Bratenahl Bldg.
GENTLEMEN: I had occasion on the 13th of November to use your Extinguisher on board the steamer Queen of the West, of Cleveland. A large lamp used for signal purposes aft, fell about twenty feet and set fire to the whole roof of the engine room. I do not know what the consequences would have been but for the prompt and effectual way in which your extinguisher put out the fire, as the wind was blowing hard and a heavy sea running at the time. I heartily recommend your machine as a fire extinguisher on all classes of steamships. Yours truly,
JOS. A. NICOLSEN, Master Str. Queen of the West.

182 24th Street,
Detroit, Mich., Jan 12, 1891.
DEAR SIR: Going up Lake Huron last fall during a heavy gale of wind and a big sea running, a fire broke out in one of the rooms of the steamer Fayette Brown, through the accidental upsetting of a lamp among some papers, and had gained considerable headway before discovered. By the prompt use of one of your Chemical Engines it was quickly subdued, and I think there was less than a pint of the fluid used. Have no doubt the fire would have given us lots of trouble without some such prompt and easy way of extinguishing it. Since that time I do not think a steamboat properly fitted out without the Miller Chemical Engine. Yours truly,
C. H. BASSETT, Master Str. Fayette Brown.

FOR SALE SMALL FERRY AND TOWING LINE,

With contracts for \$2,000. Towing and lease of docks for five years. Line cleared \$3,000 last year. For references, etc., address,

CONSOLIDATED FERRY CO., LUDINGTON, MICH.



Clark's Reversible Steam Hoist,

(WITH OR WITHOUT BOILER.)

Fitted with Improved Friction Clutch.

ESPECIALLY ADAPTED FOR
DECK HOISTING.

Address, H. W. CLARK,
or
GEO. W. TIFFT, SONS & CO.
BUFFALO, N. Y.

PHOENIX IRON WORKS

—MANUFACTURERS OF—

Modern Marine Engines AND Boilers

1223 to 1231 Fourth St., PORT HURON, MICH.

Telephone Nos. { Office, 15.
Residence, 192.

Special Attention Given to Repairs.

FRONTIER IRON AND BRASS WORKS,

DETROIT, MICH.

Builders of

TRIPLE EXPANSION
and all kinds of

Marine Engines

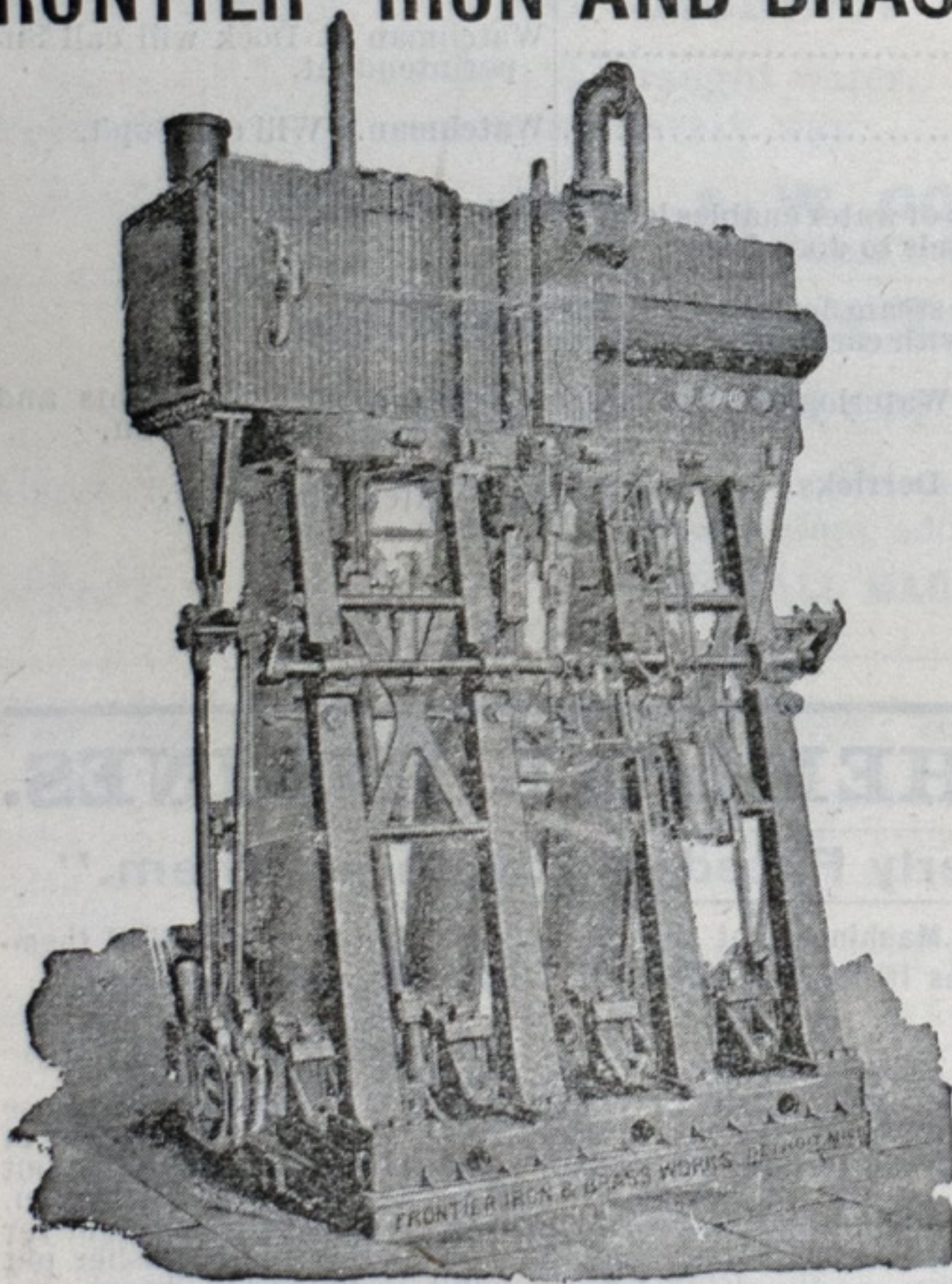
Engines furnished
for Steamships:

T. W. Palmer,
Livingstone,
Majestic, Tampa,
John Mitchell,
Nyanza, Fedora,
Geo. F. Williams,

Mackinaw,
Keweenaw,

Jno. Harper,
Panther, (fore and aft compound)

and for the two counter-
parts of the
Tampa, building at
Wheeler's yard.



Fitted with "JOY" PATENT VALVE GEAR.

MARINE BOILER WORKS,

(Formerly RUSSELL IRON WORKS.)

1013 and 1015 Water Street, - - - TOLEDO, OHIO.

R. REEVES & CO.,

Manufacturers of MARINE, PORTABLE AND STATIONARY BOILERS, TANKS, HEATERS, SMOKE STACKS, and all kinds of SHEET IRON WORK.

Repairing promptly attended to. Estimates given.

HAVE YOU HEARD OF THE

HYDRAULIC STEERING GEARS.

IT IS ASTONISHING HOW WELL AND EASY THEY DO THEIR WORK.

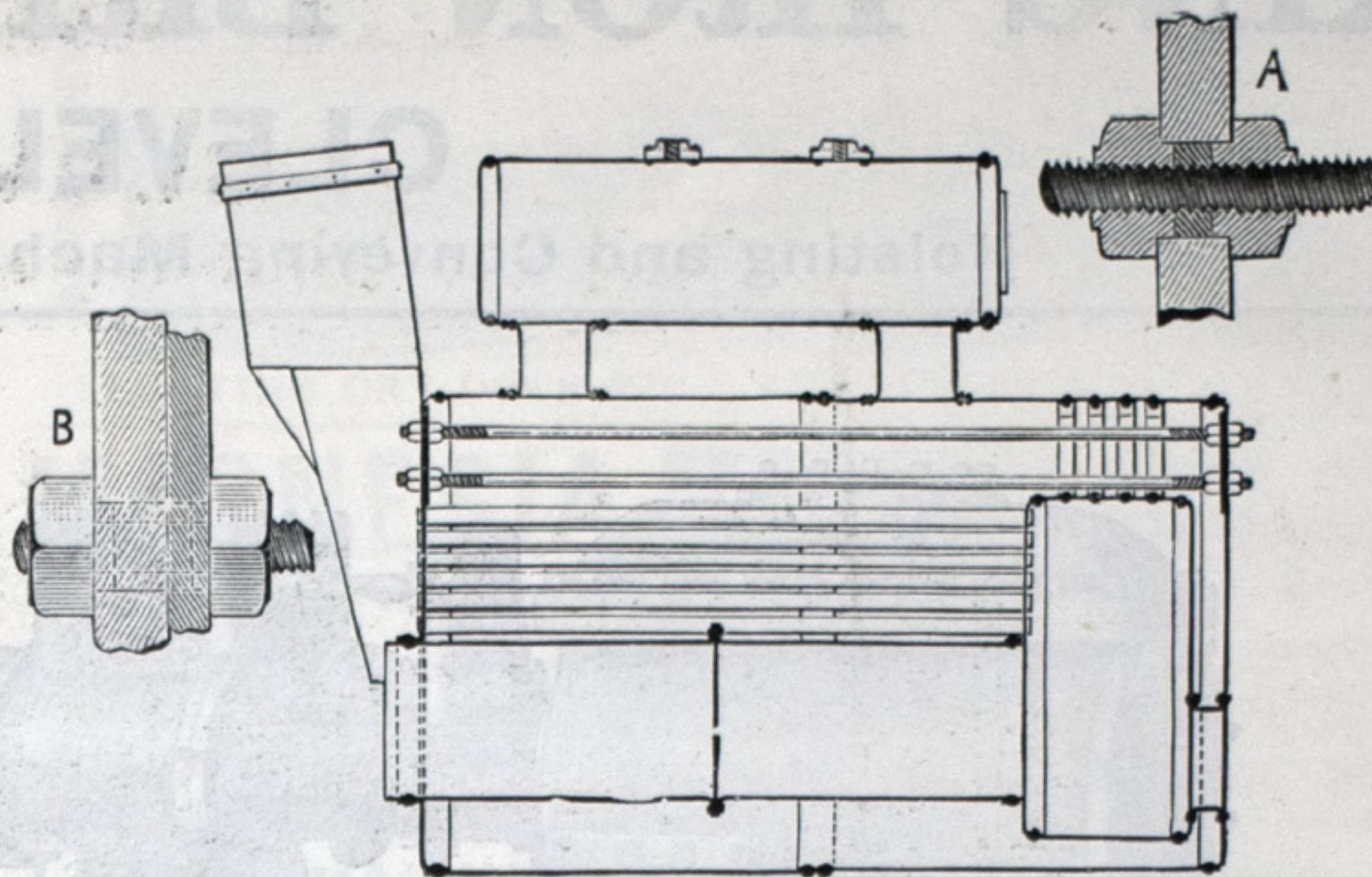
Manufactured by

CRAWLEY & JOHNSTON.

CORRESPONDENCE SOLICITED.

CINCINNATI, OHIO.

THE SCHAFER STAY BAR. SHOP RIGHTS FOR SALE.

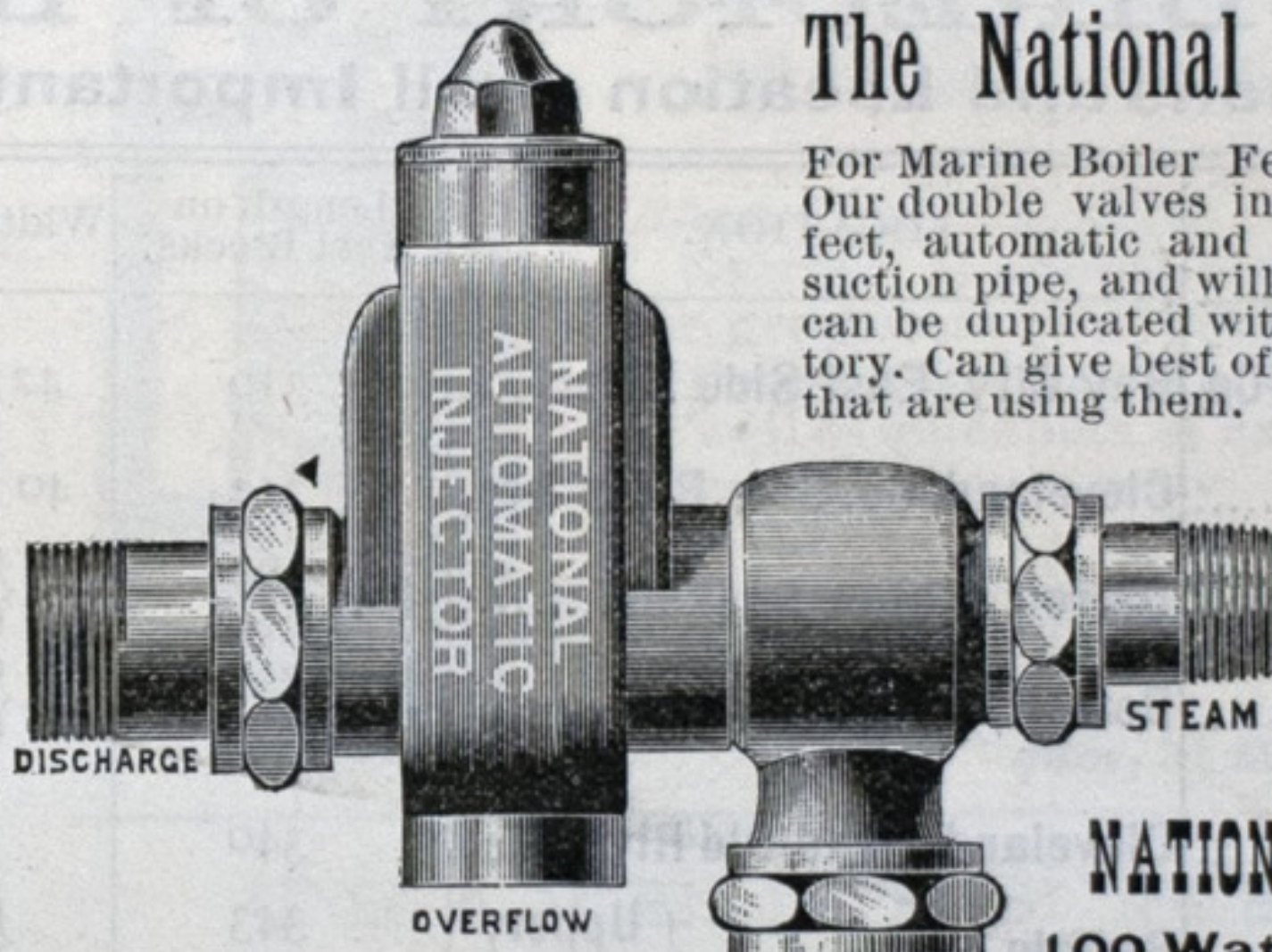


The best, the cheapest, and the only means of staying marine boilers. This stay gives free expansion. We use no putty or cement of any kind. The strength of the stays is not reduced by heaving them up with long wrenches and rope falls, but we guarantee that one man with a wrench not to exceed three feet in length will make the joint absolutely tight. This device can be applied to boilers now in use with but very little expense. Get estimates from

D. CONNELLY & CO.,

27 Center Street, CLEVELAND, OHIO.

The National Automatic Injector.



For Marine Boiler Feed it is superior to any other. Our double valves in overflow makes it most perfect, automatic and reliable; will lift with hot suction pipe, and will work water 140° hot. All parts can be duplicated without sending Injector to factory. Can give best of testimonials from engineers that are using them. Will send Injector to any reliable party on a guarantee. Give the National a trial, then decide for yourself if you want it or not. We also make the National Ejector. Send for Descriptive Price List. Agents wanted in every locality. Prices always the lowest.

NATIONAL BRASS MAN'G CO.

100 Water St., CLEVELAND, O.

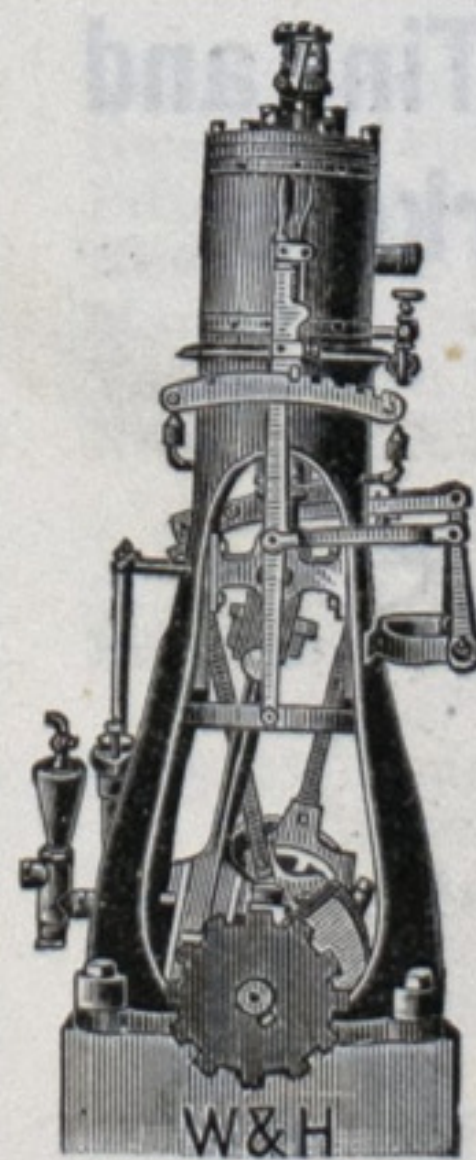
ERIE RUBBER CO.,

ERIE, PA.,

—MANUFACTURERS OF THE—

KEYSTONE MARINE VALVE.

These RED, AIR AND FOOT VALVES, are the
Best Rubber Valves made.



J. D. WILSON.

M. HENDRIE.

Montague Iron Works,

MONTAGUE, MICH.

WILSON & HENDRIE, Proprietors.

MANUFACTURERS OF

Marine Engines and Boilers,
AND GENERAL MILL MACHINERY.

HENRY B. BURGER.

GEORGE B. BURGER.

H. B. & G. B. BURGER,
MANITOWOC, WIS.

Ship Builders and Contractors.

Dock will admit vessels of 1200 tons and boxes will lift 350 ton vessels. Yard is fitted with a large spar derrick, and a stock of spars always on hand.

For dimensions of Dry Dock, see page 13.